

## TAVOLA PERIODICA DEI NUCLEI ATOMICI

### configurazione dei livelli nucleari degli isotopi **TALLIO Z = 81-a**

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p-T_{1/2}}$
$\frac{1356.72}{1356.6}$	Tl <sub>81</sub> <sup>176</sup>	$\frac{176.000497}{176.00059}$	81n	2+0	8+0	18+0	32+0	6+2	0+11	1+1	$\frac{1.7638M}{p5.20ms}$
$\frac{1368.72}{1368.6}$	Tl <sub>81</sub> <sup>177</sup>	$\frac{176.99628}{176.996427}$	81n	2+0	8+0	18+0	32+0	4+4	1+11	1+0	$\frac{7.067M}{\alpha 18.0ms}$
$\frac{1377.49}{1378.1}$	Tl <sub>81</sub> <sup>178</sup>	$\frac{177.99553}{177.99490}$	81n	2+0	8+0	18+0	32+0	4+5	1+10	0+1	$\frac{7.020M}{\alpha 254ms}$
$\frac{1389.13}{1389.7}$	Tl <sub>81</sub> <sup>179</sup>	$\frac{178.99170}{178.99109}$	81n	2+0	8+0	18+0	32+0	3+7	1+9	0+1	$\frac{6.718M}{\alpha 230ms}$
$\frac{1398.98}{1398.9}$	Tl <sub>81</sub> <sup>180</sup>	$\frac{179.98979}{179.98991}$	81n	2+0	8+0	18+0	32+0	3+8	0+9	0+1	$\frac{1.099M}{ce 1.09s}$
$\frac{1409.90}{1410.3}$	Tl <sub>81</sub> <sup>181</sup>	$\frac{180.98673}{180.986257}$	81n	2+0	8+0	18+0	32+0	1+10	0+9	1+0	$\frac{7.862M}{ce 3.20s}$
$\frac{1418.67}{1419.0}$	Tl <sub>81</sub> <sup>182</sup>	$\frac{181.98598}{181.98567}$	81n	2+0	8+0	18+0	32+0	1+11	0+8	0+1	$\frac{10.23M}{ce 3.10s}$
$\frac{1430.30}{1430.3}$	Tl <sub>81</sub> <sup>183</sup>	$\frac{182.982193}{182.982193}$	81n	2+0	8+0	18+0	32+0	0+13	0+7	0+1	$\frac{5.966M}{\alpha 6.90s}$
$\frac{1438.36}{1438.6}$	Tl <sub>81</sub> <sup>184</sup>	$\frac{183.98217}{183.98187}$	81n	2+0	8+0	18+0	30+1	1+13	0+7	0+1	$\frac{9.460M}{ce 10.1s}$
$\frac{1449.29}{1449.6}$	Tl <sub>81</sub> <sup>185</sup>	$\frac{184.97910}{184.97879}$	81n	2+0	8+0	18+0	28+2	1+14	0+7	1+0	$\frac{6.420M}{ce 19.5s}$
$\frac{1458.06}{1458.1}$	Tl <sub>81</sub> <sup>186</sup>	$\frac{185.97839}{185.97833}$	81n	2+0	8+0	18+0	28+2	1+15	0+6	0+1	$\frac{8.670M}{ce 27.5s}$
$\frac{1467.91}{1468.4}$	Tl <sub>81</sub> <sup>187</sup>	$\frac{186.97644}{186.975906}$	81n	2+0	8+0	18+0	26+3	1+16	1+5	0+1	$\frac{5.675M}{ce 51s}$
$\frac{1475.97}{1476.4}$	Tl <sub>81</sub> <sup>188</sup>	$\frac{187.97646}{187.97601}$	81n	2+0	8+0	18+0	26+3	0+17	1+5	0+1	$\frac{7.860M}{ce 71.0s}$
$\frac{1486.89}{1486.7}$	Tl <sub>81</sub> <sup>189</sup>	$\frac{188.97340}{188.973588}$	81n	2+0	8+0	18+0	24+4	0+18	1+5	1+0	$\frac{5.030M}{ce 2.30m}$
$\frac{1494.95}{1494.5}$	Tl <sub>81</sub> <sup>190</sup>	$\frac{189.97341}{189.97388}$	81n	2+0	8+0	18+0	22+5	1+18	1+5	1+0	$\frac{7.060M}{ce 2.60m}$
$\frac{1504.80}{1504.5}$	Tl <sub>81</sub> <sup>191</sup>	$\frac{190.97150}{190.971786}$	81n	2+0	8+0	18+0	22+5	1+19	0+5	1+0	$\frac{4.311M}{ce 20m}$
$\frac{1511.79}{1512.2}$	Tl <sub>81</sub> <sup>192</sup>	$\frac{191.97266}{191.97223}$	81n	2+0	8+0	18+0	22+5	0+20	1+4	0+1	$\frac{6.140M}{ce 9.60m}$

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p-T_{1/2}}$
$\frac{1521.64}{1521.7}$	$\text{TI}_{81}^{193}$	$\frac{192.97071}{192.97067}$	81n	2+0	8+0	18+0	22+5	0+21	0+4	0+1	$\frac{3.760\text{M}}{ce\ 21.6\text{m}}$
$\frac{1528.99}{1529.3}$	$\text{TI}_{81}^{194}$	$\frac{193.97153}{193.97120}$	81n	2+0	8+0	18+0	20+6	0+21	0+5	1+0	$\frac{5.370\text{M}}{ce\ 33.0\text{m}}$
$\frac{1538.83}{1538.7}$	$\text{TI}_{81}^{195}$	$\frac{194.96962}{194.969774}$	81n	2+0	8+0	18+0	18+7	0+22	1+4	1+0	$\frac{2.850\text{M}}{ce\ 1.16\text{h}}$
$\frac{1546.18}{1546.1}$	$\text{TI}_{81}^{196}$	$\frac{195.97040}{195.970481}$	81n	2+0	8+0	18+0	18+7	0+22	1+5	0+0	$\frac{4.330\text{M}}{ce\ 1.84\text{h}}$
$\frac{1554.25}{1555.0}$	$\text{TI}_{81}^{197}$	$\frac{196.97040}{196.969575}$	81n	2+0	8+0	18+0	16+8	1+22	1+5	0+0	$\frac{2.200\text{M}}{ce\ 2.84\text{h}}$
$\frac{1562.31}{1562.2}$	$\text{TI}_{81}^{198}$	$\frac{197.97041}{197.97048}$	81n	2+0	8+0	18+0	16+8	0+23	1+5	0+0	$\frac{3.460\text{M}}{ce\ 5.30\text{h}}$
$\frac{1570.37}{1570.9}$	$\text{TI}_{81}^{199}$	$\frac{198.97043}{198.96988}$	81n	2+0	8+0	18+0	14+9	1+23	1+5	0+0	$\frac{1.490\text{M}}{ce\ 7.42\text{h}}$
$\frac{1578.44}{1577.9}$	$\text{TI}_{81}^{200}$	$\frac{199.97043}{199.970963}$	81n	2+0	8+0	18+0	14+9	0+24	1+5	0+0	$\frac{2.456\text{M}}{ce\ 26.10\text{h}}$
$\frac{1586.50}{1586.1}$	$\text{TI}_{81}^{201}$	$\frac{200.97044}{200.970819}$	81n	2+0	8+0	18+0	12+10	1+24	1+5	0+0	$\frac{480.0\text{K}}{ce\ 3.0421\text{d}}$
$\frac{1592.77}{1593.0}$	$\text{TI}_{81}^{202}$	$\frac{201.97237}{201.972106}$	81n	2+0	8+0	18+0	12+10	1+24	0+6	0+0	$\frac{1.360\text{K}}{ce\ 12.31\text{d}}$
$\frac{1600.84}{1600.9}$	$\text{TI}_{81}^{203}$	$\frac{202.972344}{202.972344}$	81n	2+0	8+0	18+0	12+10	0+25	0+6	0+0	$\frac{\text{st}}{29.52\%}$
$\frac{1607.11}{1607.5}$	$\text{TI}_{81}^{204}$	$\frac{203.97431}{203.973864}$	81n	2+0	8+0	18+0	10+11	0+25	1+6	0+0	$\frac{763.76\text{K}}{\beta^- 3.783\text{a}}$
$\frac{1613.39}{1615.1}$	$\text{TI}_{81}^{205}$	$\frac{204.97623}{204.974427}$	81n	2+0	8+0	18+0	10+11	0+25	0+7	0+0	$\frac{\text{st}}{70.48\%}$
$\frac{1619.67}{1621.6}$	$\text{TI}_{81}^{206}$	$\frac{205.97815}{205.976110}$	81n	2+0	8+0	18+0	8+12	0+25	1+7	0+0	$\frac{1.5322\text{M}}{\beta^- 4.202\text{m}}$
$\frac{1625.95}{1628.4}$	$\text{TI}_{81}^{207}$	$\frac{206.98008}{206.977419}$	81n	2+0	8+0	18+0	8+12	0+25	0+8	0+0	$\frac{1.419\text{M}}{\beta^- 4.77\text{m}}$
$\frac{1632.22}{1632.2}$	$\text{TI}_{81}^{208}$	$\frac{207.982019}{207.982019}$	81n	2+0	8+0	18+0	6+13	0+25	1+8	0+0	$\frac{4.9969\text{M}}{\beta^- 3.053\text{m}}$

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p \cdot T_{1/2}}$
$\frac{1636.71}{1637.2}$	$\text{TI}_{81}^{209}$	$\frac{208.98586}{208.985359}$	81n	2+0	8+0	18+0	4+14	1+24	1+9	0+0	$\frac{3.977M}{\beta^- 2.161m}$
$\frac{1640.84}{1640.9}$	$\text{TI}_{81}^{210}$	$\frac{209.99008}{209.990074}$	81n	2+0	8+0	18+0	4+14	1+24	0+9	0+1	$\frac{5.482M}{\beta^- 1.30m}$
$\frac{1645.33}{1645.8}$	$\text{TI}_{81}^{211}$	$\frac{210.99393}{210.99348}$	81n	2+0	8+0	18+0	4+14	0+24	0+10	0+1	$\frac{4.550M}{\beta^- 1m}$
$\frac{1649.82}{1649.4}$	$\text{TI}_{81}^{212}$	$\frac{211.99778}{211.99823}$	81n	2+0	8+0	18+0	2+15	1+23	0+11	0+1	$\frac{6.100M}{\beta^- 30s}$
$\frac{1654.32}{-}$	$\text{TI}_{81}^{213}$	$\frac{213.00161}{-}$	81n	2+0	8+0	18+0	2+15	0+23	0+12	0+1	$\frac{4.960M}{\beta^- 101s}$
$\frac{1658.81}{-}$	$\text{TI}_{81}^{214}$	$\frac{214.00546}{-}$	81n	2+0	8+0	18+0	0+16	1+22	0+13	0+1	$\frac{6.700M}{\beta^- >300ns}$
$\frac{1661.50}{-}$	$\text{TI}_{81}^{215}$	$\frac{215.01123}{-}$	81n	2+0	8+0	16+1	0+16	1+21	1+14	0+1	$\frac{5.500M}{\beta^- >300ns}$

$E_c(\text{MeV})$  = valore calcolato dell'energia di legame

$E_s(\text{MeV})$  = valore sperimentale dell'energia di legame

$m_c$  = valore calcolato della massa atomica

$m_s$  = valore sperimentale della massa atomica

$n$  = numero di neutroni centrali attivi

1-7 = numero quantico associato al livello

$p + d$  = (numero di protoni) + (numero di deutoni) in orbita

$p - T_{1/2}$  = particella emessa – periodo di dimezzamento

$E_p(\text{eV})$  = energia della particella emessa